

providing a microfabricated device having at least first and second chambers disposed therein, said at least first and second chambers including at least one vent port and at least one of said chambers being a volumetric chamber having a known volume;

providing a sealable closure inlet to said microfabricated device;

providing at least one valve controlled by an external pressure source;

filling said volumetric chamber with said fluid to create a first aliquot of said fluid;

opening said controllable valve; and

transporting said first aliquot of said fluid to said at least second chamber by applying pressure from said external source.

97. (Amended) The method of claim 96 wherein said using said pneumatic system includes using a differential pressure delivery system capable of applying a first pressure to said volumetric chamber and a second pressure to said second chamber.

117. (Amended) A miniature fluidic system for measuring and processing a known volume of a fluid controlled by an external pressure source, comprising:

a microfabricated device having at least first and second chambers disposed therein, said at least first and second chambers including at least one vent port and at least one of said chambers being a volumetric chamber having a known volume;

a sealable closure inlet to said microfabricated device constructed to enable introduction of a liquid;

at least one valve controlled by an external pressure source;

means for filling said volumetric chamber with said fluid to create a first aliquot of said fluid;

means for opening said controllable valve; and

means for transporting said first aliquot of said fluid to said at least second chamber.

127. (Amended) The system of claim 117 wherein said sealable closure inlet is constructed for introduction of a reagent.

128. (Amended) The system of claim 117 wherein sealable closure inlet is constructed for introduction of a buffer.

129. (Amended) The system of claim 117 wherein sealable closure inlet is constructed for introduction of a biological polymer.

c5 130. (Amended) The system of claim 117 including means for reconstituting a reagent kept in a lyophilized form.

131. (Amended) The system of claim 130, wherein said means for reconstituting includes means for transporting said first aliquot of said fluid to said second chamber wherein said reagent is located.

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Please enter the following new claims:

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--132. (new) The method of claim 90 including applying a positive pressure with respect to said volumetric chamber, whereby said positive pressure forces said fluid from said volumetric chamber.

c6 133. (new) The method of claim 90 including applying a negative pressure with respect to said volumetric chamber, whereby said negative pressure forces said fluid into said volumetric chamber.

134. (new) The method of claim 92 includes introducing a liquid including a sample through said sealable closure inlet formed by a septum.

135. (new) The system of claim 117 wherein said sealable closure inlet includes a septum.--